CLAIMS

1. Transparent glazing with a field of view that can be darkened over a portion of its surface by electrically controlling at least one functional element incorporated into a multilayer composite, the light transmission of which glazing can be varied reversibly, in which portion the functional element, in particular in the form of a solid-state electrochromic multilayer system, comprises at least one electrochromic functional layer enclosed between two surface electrodes, characterized in that the surface electrodes (2E, 4) of the functional element (2) and their leads (12, 14, 16, 18, 19, 20) are matched to one another and spaced spatially with respect to one another in such a way that its darkening starts at one edge of the functional element and, with a remaining voltage applied between the surface electrodes (2E, 4), propagates continuously over the surface of the element until it is completely and uniformly colored.

2. The transparent glazing as claimed in claim 1, characterized in that at least one of the surface electrodes (4, 2E) is connected to at least one connection conductor (12, 20; 14, 16) having a low ohmic resistance, which conductor is parallel to and is placed close to a lateral edge of the functional element (2).

3. The transparent glazing as claimed in claim 1 or 2, characterized in that at least one of the surface electrodes (4) is equipped with two connection conductors (12, 20) of low ohmic resistance, which are placed on either side of the functional element (2) and can be subjected to electrical potentials independently of each other via suitable external leads (13, 19).

4. The transparent glazing as claimed in any one of the preceding claims, characterized in that the

functional element (2) extends along one side of the glazing and, from this side, into the field of view of the glazing (1), the darkening of which field of view starts in the region of the said side.

5. The transparent glazing as claimed in claims 3 and 4, characterized in that one of the connection conductors (12) is placed near the side of the glazing (1) and the other (20) is placed on the other side of the functional element (2), in the region lying between the boundary located in the field of view and the opposite side of the glazing.

6. The transparent glazing as claimed in claim 5, characterized in that a connection conductor (20), which is in the field of view of the glazing (1), is in the form of at least one thin metal wire.

7. The transparent glazing as claimed in any one of the preceding claims, characterized in that the functional element (2) extends from a first side of the glazing (1) and then between two mutually opposite sides of the glazing and being angularly connected to this side, in which glazing one of its surface electrodes (2E) is brought into electrical contact toward the outside from at least one surface extending along these opposed sides.

8. The transparent glazing as claimed in claim 7, characterized in that the surface electrode (2E) remote from the substrate is electrically connected to at least one lead (14, 16) lying at the edge of the glazing by means of at least one thin metal wire (18) extending over that surface of the functional element (2) which lies in the field of view of the glazing.

9. The transparent glazing as claimed in any one of the preceding claims, characterized in that the surface electrode close to the substrate is in the form of a

substantially complete coating (4) of the glazing (1), in that the functional element (2) is formed only over a portion of this coating (4), in such a way that lateral bands not covered by the functional element (2) are formed on at least two sides of the glazing forming an angle between them, in that these lateral bands (6, 8) of the surface electrode are electrically isolated from one another and in that a connection band (12, 14, 16), one of which is electrically connected to the surface electrode (4) close to the substrate and the other of which is electrically connected to the surface electrode (2E) remote from the substrate of the functional element (2), is provided on each of the lateral bands.

10. The transparent glazing as claimed in any one of the preceding claims, characterized in that the two surface electrodes (4, 2E) are produced with different surface resistances.

11. The transparent glazing as claimed in claim 10, characterized in that the surface electrode (4) close to the substrate has a lower surface resistance than the surface electrode (2E) remote from the substrate.

12. The transparent glazing as claimed in claim 10 or 11, characterized in that the surface resistance of the surface electrode (4) close to the substrate lies within the range from 0.01 to 100 ohms per unit area, preferably from 2 to 10 ohms per unit area and more preferably about 6-7 ohms per unit area, and in that the surface resistance of the surface electrode (2E) remote from the substrate is about 10 times these values.

13. The transparent glazing as claimed in any one of the preceding claims, characterized in that an opaque edge frame (3) extends over at least a portion of its perimeter along the edge of the latter and in that

electrical leads (12, 14, 16, 20) for the surface electrodes are placed on the surface of this edge frame (3).

14. The use of transparent glazing (1) as claimed in any one of the preceding claims as a windshield for a vehicle, in which the all-solid-state electrochromic multilayer system (2) is placed, as an electrically controllable sunshield, in a region of the top edge in the mounted state.

15. A method for controlling a functional element (2) in the form of an all-solid-state electrochromic surface element in a transparent glazing unit, which all-solid-state surface element includes a functional layer (2F) that can be reversibly decolored electrochromically, this being inserted between two surface electrodes (4, 2E), characterized in that the surface electrodes (4, 2E) are produced with different surface resistances from which the increase in the supply voltage in the surface of these surface electrodes proceeds at different rates for any one voltage level, and in that an effective electrical potential is introduced into one of the surface electrodes (4) relative to the other surface electrode (2E), forcing the electrochromic change of color on one side of the electrochromic surface element (2) so as to control one direction of propagation of the change of color of the electrochromic surface element (2).

16. The method as claimed in claim 15, characterized in that at least one supply lead (12, 20) for electrical potentials causing the electrochromic color change is provided on at least one of the surface electrodes (4) on either side of the all-solid-state electrochromic surface element.

17. The method as claimed in claim 15 or 16, characterized in that a first effective potential is

applied via a first supply lead (12) for the surface electrode (4) relative to the other surface electrode (2E) in order to induce a coloration in a predetermined direction of propagation of the color change, and in that a second effective potential, of reverse polarity, is applied via a second supply lead (20) for the surface electrode (4) relative to the other surface electrode (2E) in order to produce decoloration in a predetermined direction of propagation of the color change.

18. The method as claimed in any one of the preceding method claims, in an application for controlling an electrochromic functional element incorporated as a sunshield in the windshield of a vehicle.